

A Study of Arrhythmia in Patients With Rheumatic Heart Disease



Medicine

KEYWORDS : Rheumatic heart disease, arrhythmia.

Dr. Jitendra H. Parikh Associate professor- Department of Medicine, Civil Hospital Ahmedabad

Dr.Meeta G.Nanavati Associate professor- Department of Pathology, Civil Hospital Ahmedabad

Dr.Sejalkumari Ninama Third year resident - Department of Pathology, Civil Hospital Ahmedabad

Dr. Rechal P.Shah fourth year resident- Department of Medicine, Civil Hospital Ahmedabad

ABSTRACT

Introduction: Rheumatic heart disease is common form of heart disease among children and young adults, especially in developing countries like India. Streptococcal infection are very common especially in children living in under-privileged conditions. Arrhythmia which is one of the important complication of rheumatic heart disease is responsible for much of morbidity and mortality caused by RHD. Aims and objectives: To study the incidence of arrhythmia in patients with RHD and study the valvular lesion seen in RHD patients and its correlation with type of arrhythmia. Materials and methods: Prospective and observational study was carried out in department of medicine civil hospital ahmedabad during 2011 to 2013 duration. total number of patients is 50. Observation and discussion: Majority of the patients of RHD were in 31-40 years age group (34%) and females (62%) affected more than males (38%). On ECG, arrhythmia were noted in 44% of patients. Most common arrhythmia seen females 41-50 years age group in our study was sinus tachycardia, followed by atrial fibrillation. isolated mitral stenosis was the most common valvular lesion (46%) seen in our study. Conclusion: Maximum arrhythmia were seen in females of 41-50 years of age group. it is late complication in patients having long standing RHD and the most common valve affected are mitral valve.

Introduction:

Rheumatic heart disease is common form of heart disease among children and young adults, especially in developing countries like India. most common in 5-15 years of age groups. Streptococcal infection are very common especially in children living in under-privileged conditions. Arrhythmia which is one of the important complication of rheumatic heart disease is responsible for much of morbidity and mortality caused by RHD. Early detection of this detection reduce morbidity and mortality of this disease.

Aims and objectives:

To study the clinical profile of patients with RHD, incidence of arrhythmia in patients with RHD and study the valvular lesion seen in RHD patients and its correlation with type of arrhythmia.

Materials and methods:

Prospective and observational study was carried out in department of medicine civil hospital ahmedabad during 2011 to 2013 duration. total number of patients is 50. All patients with RHD diagnosed on 2D-echo of more than 12 years included in the study. patients less than 12 years of age, pregnant women and patient on arrhythmogenic drugs excluded from the study. electrocardiogram and echocardiography are important investigation.

Observation and discussion:

Majority of the patients of RHD were in 31-40 years age group (34%) and females (62%) affected more than males (38%). On ECG, arrhythmia were noted in 44% of patients. Most common arrhythmia seen females 41-50 years age group in our study was sinus tachycardia, followed by atrial fibrillation. isolated mitral stenosis was the most common valvular lesion (46%) seen in our study.

Table 1 showing age and sex distribution.

Age group (years)	Male (%)	Female (%)	Total (%)
20	2(4)	3(6)	5(10)
21-30	5(10)	6(12)	11(22)
31-40	7(14)	10(20)	17(34)
41-50	4(8)	8(16)	12(24)
>50	1(2)	4(8)	5(10)
Total	19(38)	31(62)	50(100)

Most common symptoms found was palpitation. other symptoms include dyspnea, chest pain, syncope, fever and hemoptysis.

Table 2 showing ECG findings in RHD patients.

ECG findings	No. of patients	Percentage (%)
Axis		
Right axis	18	36
Left axis	10	20
Normal	22	44
Prolonged PR interval	2	4
Left atrial enlargement	28	56
Right atrial enlargement	15	30
LVH	12	24
RVH	20	40
Arrhythmia	22	44

On ECG arrhythmia noted in 44% of patients.

Table 3 showing frequency and type of arrhythmias.

Types of arrhythmias	Males	Females	Total
Sinus tachycardia	3	4	7
Sinus bradycardia	1	1	2
Atrial fibrillation	1	4	5
Atrial flutter	0	1	1
1 st degree AV block	1	1	2
2 nd degree AV block	0	1	1
Complete heart block	0	1	1
Extrasystole	1	1	2
MAT	1	0	1
Total	8	14	22

Most common arrhythmia noted in our study was sinus tachycardia, followed by atrial fibrillation.

Table 4 showing arrhythmia seen in various studies.

Types of arrhythmias	Ballis et al (%)	Karacanm et al(%)	Present study(%)
Sinus tachycardia	22	-	14
Sinus bradycardia	-	-	4
Atrial fibrillation	14	7.2	10
Atrial flutter	4	1.8	2
1 st degree AV block	2	21.9	4
2 nd degree AV block	4	1.56	2
Complete heart block	2	-	2
Extrasystole	4.2	29.7	4
MAT	-	-	2
Total	48	52	44

Atrial fibrillation was seen in 10% of patients in our study ,compared to 14% and 7.2% of patients seen in ballis et al and karacanm et al studied respectively.sinus tachycardia was seen in 14% of patients in our study,compared to 22% of patients seen in ballis et al study,total number of patients compared with both study.

Table 5 showing distribution of valvular lesions.

Lesion	Male%	Female%	Total %
Isolated MS	24	22	46
Isolated MR	6	12	18
MS+MR	6	14	20
AR	2	2	4
MS+AR	0	2	2
MR+AR	0	8	8
MS+MR+AR	0	2	2
Total	38	62	100

Isolated mitral stenosis was most common valvular lesion (46%) seen in our study followed by combined mitral stenosis and mitral regurgitation (20%).

Conclusion:

Majority of patients affected by RHD were female in 31-40 years age group. Maximum arrhythmia were seen in females of 41-50 years of age group and it was sinus tachycardia type.it is late complication in patients having long standing RHD and the most common valve affected are mitral valve and it was mitral stenosis.

REFERENCE

- 1.Padmavati s.rheumatic fever and rheumatic heart disease in developing countries.Bull World health Organ 1978;56:543. | 2.Padmavati in: Yu PN ,ed.progress in cardiology.Philadelphia: Lea & Febiger,1987:169-83. | 3.Kumar,Vinay;Abbas,Abdul K;fausto,Nelson;Mitchell,Richard N (2007).Robbins Basic Pathology (8th ed.),saunders Elsevier,pp.403-6.ISBN 978-1-4160-2973-1. | 4.balli s et al: rhythm and conduction j analysis in patients with acute rheumatic fever: j cardiovascular med 2010 march 436-9. | 5.karacan m et al: Asymptomatic rhythm and conduction abnormalities in acute rheumatic fever:cardiol young dec 2010;20(6):620-30. |